

Tech Note 24: Fire Services with Press-Fit

TN.24

AusPress Stainless Press-Fit is well suited for fire services, offering considerable benefits over alternative systems, such as roll groove and threaded, with faster installation time, reduced (dead) weight of pipework to lift and supporting compliance with the material performance of 316 stainless steel.



Applicable Products:

- AusPress Stainless Press-Fit, diameters 15 – 168.3mm

Related Documents:

- Tech Note TN.06 AusPress Copper Press-Fit General Warranty
- Tech Note TN.07 Underground, Concrete & Press-Fit
- Tech Note TN.14 AusPress Stainless Press-Fit General Warranty
- Tech Note TN.20 Brackets & Supports
- Tech Note TN.25 Flange Pressure-Temperature Rating Summary
- Select a Press Tool Chart

Applicable Standards & Approvals

Authority	Standards	Notes
 ActivFire (CSIRO)	AS 2419.1 AS 3688 AS 4118.2.1 AS 5200.053	Approved as conforming to the requirements of standards for fire hydrant systems and fire sprinkler systems.
 WaterMark	AS 3688 AS 5200.053	Approved as conforming to the requirements of standards for use with potable water systems.

Standard Specification

AusPress Stainless Press-fit system, supplied in 316 stainless steel. Fittings M-Profile with standard EPDM ring seal fitted. Tube to be annealed, metric sizes to AS 5200.053 Series 2. Installation by a qualified person(s) in accordance to AS 3500 and AusPress recommendations. Installation tool selection to suit M-Profile metric sizes and press a join rated to or exceeding the required system working pressure.

Installing

The process to install AusPress press-fit follows the standard recommended installation procedures as per our installation & commissioning recommendations. Installing press-fit for fire services requires no additional process or methods.

Product training by AusPress is recommended, particularly for installers unfamiliar with working with stainless and/or press-fit as a joining method.

Design Considerations

Although each installation should be designed for purpose and rated by a qualified and registered Fire Services Engineer, several considerations shall be given assessment:

- Pressure Rating – AusPress stainless press-fit is rated to a working pressure of 1,600 or 2,500kPa depending on the installation tool used. Higher pressures may be accommodated on written approval from AusPress.
- Fire Resistance – Stainless has a “A1” rating and as such, requires no specific treatment to resist the impacts of fire as a non-combustible material. This material also does not cause the spread of fire. The average building fire is 1,000°C; stainless steel melts ~1,400°C.
- Fire Suppression Media – Majority of installations use potable water to Australian Drinking Water Guidelines (ADWG) which is suitable. Alternative medias such as foams and additives should be assessed by AusPress for their suitability before specifying.
- Penetrations – Where the system passes through a fire wall or fire compartment, fire collars are not required. Penetrations through fire walls and floors require the gap of any aperture to be filled with a fire rated and low chloride mortar, mastic or fibre fill. We stock escutcheon cover plates for a neat finish as requested by some Fire Engineers.
- Mixed Materials - Stainless cannot be connected to the galvanised steel pipework, directly or indirectly, with the risk bi-metallic corrosion between the differing metals. This effect can also occur with other dissimilar metals in contact as pipes, brackets or structure. Differing materials need to be separated or the less noble material (in the case of galvanised steel) will corrode.
- Mixed Systems – We supply stainless roll groove to press-fit adaptors, bolted flange adaptors in various standards (types), plus threaded BSP male and female fittings as standard stocked products to connect onto existing systems.
- Existing Service Pipework – Systems should be thoroughly flushed to remove stagnant water and debris from the system before connecting new. Inline strainers to be considered to prevent debris from other materials from settling within the stainless system.
- Bracketing – The system will be supported with suitable brackets (type and material) for live and dead loads, including thrust loads on bends and the bottom of risers. Refer to our Tech Note TN.20 for more information.
- Bolted Flanges – Depending on the flange standard (type) such as Table E or ANSI, these may have a lesser rating than what the press-fit joint is rated to. Refer to our Tech Note TN.25 for more information.

Further Information

For additional or specific information, please contact technical@auspress.com.au